

# METHOD FOR PROGRAMMING SINGLE-POLY EPROM AT LOW OPERATION VOLTAGES

## Abstract

A method for programming a single-poly EPROM cell at relatively low operation voltages ( $\pm V_{cc}$ ) is disclosed. According to this invention, the single-poly EPROM cell includes a P-channel floating-gate transistor formed on an N well of a P type substrate, and an N-channel coupling device. The P-channel floating-gate transistor has a  $P^+$  doped drain,  $P^+$  doped source, a P channel defined between the  $P^+$  doped drain and  $P^+$  doped source, a tunnel oxide layer on the P channel, and a floating doped poly gate disposed on the tunnel oxide layer. The N-channel coupling device includes a floating poly electrode, which is electrically connected to the floating doped poly gate of the P-channel floating-gate transistor, and is capacitively coupled to a control region doped in the P type substrate.